REMARKS

Reconsideration of the rejections set forth in the Office Action dated June 19, 2007, is respectfully requested in view of the Amendments to the claims and the following arguments. By this Amendment, claim 2 has been canceled without prejudice or disclaimer, and claims 1 and 12 have been amended. Currently, claims 1 and 3-21 are pending in this application, of which claims 9-11 and 20-21 have been withdrawn from consideration as directed to a non-elected species.

Rejections under 35 USC 102 and 103

Claims 1-2, 4-6, 12, and 19 were rejected under 35 USC 102 as being anticipated by Kuhlmann (U.S. Patent Application Publication No. 2003/0208652). Claims 3, 7-8, and 13-18 were rejected under 35 USC 103 as unpatentable over Kuhlmann in view of Grannan (U.S. Patent Application Publication No. 2005/0010671). These rejections are respectfully traversed in view of the amendments to the claims and the following arguments.

Claim 1 recites a "network element". This term is defined at page 1, lines 16-18 to include hubs, switches, routers, and other network devices that are interconnected and configured to handle data as it passes through the network. When drafting the application, applicants intentionally did not include personal computers such as laptop computers in this definition, but rather were focused on the network elements that interconnect links on the network and hence handle data as it passes through the network. Applicants have amended claim 1 to clarify that this claim is directed to a network element that routes or switches data between network interfaces as the data passes through the network.

As discussed by applicants in the background of the Invention section of this application, for example at page 1, lines 23-32, network elements have increased in sophistication over time and are expected to implement new functions. However, the network element may not have the resources required to implement these new functions. Accordingly, applicants proposed to include an intelligent interface in a network element, that implements a processing environment independent of the main processing environment, so that the existing resources of the network element could remain dedicated to performing network operations such as forwarding, switching, and routing, while also allowing the functions associated with the new functions to be offloaded from the network element to the intelligent interface itself, or to an external device via the intelligent interface when necessary. Essentially, by providing an intelligent interface with its own processing environment, new services may be implemented on a network element within the intelligent interface processing environment so that these new services/functions do not affect the amount of processing power available in the network element for core functions such as forwarding, switching, and routing. Additionally, by providing the intelligent interface with its own processing environment, the interface may boot separately from the processing environment of the network processors, to thereby allow the intelligent interface to be operational regardless of whether one or more of the network processors are operational.

Kuhlmann teaches a laptop computer having a USB port 114 (Fig. 1), or a GBEN (Gigabit Ethernet) port 260 (See Kuhlmann at Fig. 2). A connector box is connected to the USB or GBEN port, which houses connectors configured to implement many different types of communication protocols. For example, the connector box may include a USB connector, an Ethernet connector, a token ring connector, a 1Gb Ethernet connector, and a 1Gb fiber connector. The network processor in the connector box performs MAC layer processing and optionally layer 3 processing as well. (Kuhlmann at Par. 25, 46-47). For example, at Par. 52, Kuhlmann states that the network processor converts packets sent from the host into the appropriate MAC format for the target I/O device and routes the data to the appropriate connector port. A DSP also formats the data to match the physical layer signaling requirements of the interface. Kuhlmann states that the connector box may be internal or external to the laptop computer. (See Kuhlmann at Paragraph 25).

In the Office Action the Examiner indicated that Kuhlman teaches a network element having a network processor 124. As described above, however, Kuhlman describes the network processor 124 as residing in a laptop computer, which is not a "network element" as that term is defined in this application. Additionally, the Examiner indicated that Kuhlmann teaches an intelligent interface 112, which is described in Kuhlmann as a "connector box". Applicants have amended independent claims 1 and 12 to describe additional features of the intelligent interface to help distinguish what applicants are attempting to claim as an "intelligent interface" so that the claims of this application clearly distinguish the connector box taught by Kuhlmann.

For example, applicants have amended claim 1 to recite that the network element, includes a network processor that operates on data received from a communications network, and routes or switches the data between network interfaces as the data passes through the network. If the laptop of Kuhlmann is considered to contain the network processor, this amendment clearly distinguishes claim 1 from what is taught in Kuhlmann since the laptop computer in Kuhlmann does not route/switch data between network interfaces as the data passes through the network.

Additionally, applicants have amended claim 1 to recite that the intelligent interface includes a second processing environment independent of a first processing environment of the network processor and capable of booting independent of the first processing environment of the network processor, the intelligent interface thereby being available to control the network element during a boot process of the first processing environment of the network processor. Kuhlmann does not teach or suggest that the intelligent interface should be able to boot separately from the network element. Additionally, Kuhlmann does not teach or suggest that the connector box should be able to boot independently so that it may control the manner in which the laptop processing environment boots. This likewise is not taught by Grannan. Accordingly, applicants respectfully submit that claim 1 is patentable over these cited references.

Claim 12 has been amended to recite that the intelligent interface includes a processor containing control logic to execute a first processing environment independent of a processing environment of the one or more network processors of the network element, the first processing environment including a kernel specifying an operational environment of the intelligent interface that will allow the intelligent interface to be active even when there is a failure associated with one or more of the network processors of the network element. Kuhlmann alone, and in combination with Grannan, fails to teach or suggest an intelligent interface for a network element that can implement its own kernel and boot separately from the network processors of the network element. For example, there is no indication that the connector box of Kuhlmann would be able to boot separately from the computer if the laptop computer experienced failure. Grannan similarly fails to teach or suggest this feature. Accordingly, claim 12, as amended, is believed patentable over these cited references.

The dependent claims not specifically argued contain additional features/limitations that, when taken in combination with the independent claims, render them independently patentable.

Conclusion

Applicants would be very interested to talk with the Examiner about this application, the cited art, and how applicants have structured the claims to attempt to avoid the rejections set forth in the Office Action. Accordingly, applicants invite the Examiner to contact the undersigned at any time during the course of the prosecution to discuss this case. In particular, applicants would be happy to discuss this case with the Examiner to hopefully find patentable subject matter if the Examiner feels that a subsequent rejection of the claims continues to be warranted. Likewise, if there are any questions or concerns regarding the amendments or these remarks, the Examiner is requested to telephone the undersigned at the telephone number listed below.

If any fees are due in connection with this filing, the Commissioner is hereby authorized to charge payment of the fees associated with this communication or credit any overpayment to Deposit Account No. 502246 (Ref: NN-16164).

Respectfully Submitted

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